

REMARKS

In the Office Action, Claims 25 to 28, 30, 42 to 46, 76, 84 to 87, 89, 101 to 105, 135, 143 to 146, 148, 160 to 164 and 178 to 183 were rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,205,477 (Johnson). The rejection is respectfully traversed, for reasons discussed more fully below.

The present invention generally concerns determining a server in a network. An inquiry is received from a information distribution server, and state information is collected. In accordance with a first access from a client, it is determined which one of a plurality of information distribution servers should be accessed by the client, based on the logical distance between the client and each of the plurality of information distribution servers. In accordance with a second access by a client, however, the determination of which one of the plurality of information distribution servers should be accessed by the client is based on the state information collected between the first access and the second access from the client.

Thus, according to one aspect of the invention, as between first and second accesses by a client, different criteria are used to determine a server. In the first access by the client, the server is determined based on logical distance. In the second, the server is determined based on state information.

By virtue of this arrangement, in which the server is determined based on logical distance in accordance with a first client access but based on state information in accordance with a second client access, it is clearly possible to increase the speed by which a server is determined for the client.

Referring specifically to claim language, independent Claim 17 is directed to a server determination apparatus. The apparatus includes receiving means for receiving an inquiry from a first one of a plurality of information distribution servers, and collection means for collecting network state information between a client and each of the plurality of information distribution servers. The apparatus also includes server determination means for determining, based on a logical distance between the client and each of the plurality of information distribution servers, which one of the plurality of information distribution servers should be accessed by the client which has accessed the first one of the plurality of the information distribution servers, in accordance with a first access from the client, and for determining, based on the network state information collected by said collecting means between the first access and a second access from the client, which one of the plurality of information distribution servers should be accessed by the client which has accessed the first one of the plurality of the information distribution servers, in accordance with the second access from the client. Additionally, the apparatus includes informing means for informing the first information distribution server of the determined one of the plurality of information distribution servers that the client should access.

Independent Claims 70 and 135 are directed to a method and a storage medium, respectively, substantially in accordance with the apparatus of Claim 17.

Independent Claim 38 is directed to a server determination apparatus. The apparatus includes receiving means for receiving an inquiry from a first information distribution server, and collection means for collecting state information of each of a plurality of information distribution servers. The apparatus also includes server

determination means for determining, based on a logical distance between a client and each of the plurality of information distribution servers, which one of the plurality of information distribution servers should be accessed by the client which has accessed the first one of the plurality of the information distribution servers, in accordance with a first access from the client, and for determining, based on the state information collected by said collecting means between the first access and a second access from the client, which one of the plurality of information distribution servers should be accessed by the client which has accessed the first one of the plurality of the information distribution servers in accordance with the second access from the client. Additionally, the apparatus includes informing means for informing the first information distribution server of the determined one of the plurality of information distribution servers that the client should access.

Independent Claims 13 and 14 are directed to a method and a storage medium, respectively, substantially in accordance with the apparatus of Claim 30.

In contrast, Johnson is not seen to disclose or suggest that different criteria are used to determine a server in accordance with first and second accesses from the same client. More specifically, Johnson is not seen to disclose or suggest determining a server for a client based on logical distance in accordance with a first client access but based on state information in accordance with a second client access.

As understood by Applicant, Johnson is directed to a method for distributing a service request among a plurality of servers. A portion metric designating a portion of total server requests to be allocated to a server is assigned to each one of the

plurality of servers, and the server request is distributed to one of the plurality of servers using the portion metrics. See Johnson, Abstract.

Page 3 of the Office Action asserts that Johnson (Figure 1, Column 4, line 61 to Column 5, line 19 and Column 11, lines 6 to 23) discloses determining, based on a logical distance between the client and each of the plurality of information distribution servers, which one of the plurality of information distribution servers should be accessed by the client which has accessed the first one of the plurality of the information distribution servers, in accordance with a first access from the client, and for determining, based on the network state information collected by said collecting means between the first access and a second access from the client, which one of the plurality of information distribution servers should be accessed by the client which has accessed the first one of the plurality of the information distribution servers, in accordance with the second access from the client.

However, Johnson is not seen to disclose or suggest that different criteria are used to determine a server between first and second accesses from a client. In particular, while Johnson may use multiple metrics to select a server for a single client access, Johnson is not seen to disclose that different metrics are used to select a server in accordance with a first and a second access from the same client. See, e.g., Johnson, Column 4, line 61 to Column 5, line 19 and Column 11, lines 6 to 23.

Page 6 of the Office Action points to Johnson's Column 5, lines 39 to 60, which provides as follows:

In response to a server request, the distributed director 72 utilizes one or more metrics to select one of these web servers. Metrics utilized by the distributed director 72 may

include a variety of metrics, including the distance metric. An information gathering block 82 may be utilized to gather metric information such as the distance to each server. The information gathering block 82 may include a router and therefore must have access to all routing tables relating to the geographically distributed Web servers. By way of example, the distributed director 72 may store the information gathering block 82 for distance metrics between the distributed servers 78, 80 and the client 76. According to one embodiment, the information gathering block 82 may include a Direct Response Protocol (DRP) agent, available from Cisco Technology, Inc., located in San Jose, Calif. In addition, the distributed director 72 provides a portion metric which allows capabilities of each candidate server to be taken into consideration during distribution of each server request. The distributed director 72 may therefore direct clients to an appropriate server that is also closest in distance. In this manner, the distributed director 72 provides dynamic, transparent, and scalable internet traffic load distribution between multiple geographically dispersed servers. Johnson, Column 5, lines 39-46.

At best, this provides a list of metrics that might be used for selection of a server, but it is not read to disclose that specifically different metrics should be used, such that a first metric (like a distance metric) should be used for a first client access, whereas a specifically different second metric (like availability) should be used for a second client access. Importantly, as best understood by Applicant, Johnson does not even address the issue of repeated requests from the same client.

Therefore, Johnson is not seen to disclose or suggest at least the feature of determining a server for a client based on logical distance in accordance with a first client access but based on state information in accordance with a second client access, or more

generally that a server is determined by different information in accordance with first and second accesses from the client.

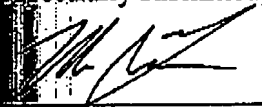
Accordingly, independent Claims 47, 30, 76, 89, 135 and 148 are believed to be in condition for allowance, and such actions are respectfully requested.

The other claims in the application are each dependent from the independent claims discussed above and are therefore believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

No other matters being raised, it is believed that the entire application is in condition for allowance, and such actions are respectfully solicited.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,


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